

REMARKS

Claims 1-6 and 9-35 are pending. Claims 7-8 have been canceled, and claims 31-35 have been added. In the Office Action mailed January 23, 2004, the Examiner rejected claims 1-5, 11-15, 20-23, 25, 27 and 29 under 35 U.S.C. 102(a) as being anticipated by WO 01/52447 A2 ("Judd"); claims 6-10, 16 and 19 under 35 U.S.C. 103(a) as being unpatentable over Judd; and claims 17-18, 24, 26, 28 and 30 under 35 U.S.C. 103(a) as being unpatentable over Judd in view of the Examiner's official notice. Applicant traverses these rejections for the following reasons.

I. Rejection of Independent Claim 1, 11 and 21

Applicant's independent claim 1 is generally directed toward a propagation system for extending into an enclosure a wireless coverage area provided by a base station that is located outside the enclosure. The propagation system includes an integrated propagation relay, which can communicate with the base station in a first set of wireless signals. The integrated propagation relay also includes a frequency converter for converting between the first set of frequencies and a second set of frequencies. The propagation system also includes a first mobile station interface port that is located in the enclosure, and the first mobile station interface port can communicate directly with the integrated propagation relay in the second set of frequencies. It may also communicate with another entity, such as a wireless device, in the first set of frequencies.

In order to make a proper rejection under 102(e) or a prima facie case of obvious under 103(a), the cited reference(s) must teach or suggest all the elements of Applicant's claims. MPEP §§2131, 2143. In this case, the Judd does not teach or suggest an integrated propagation relay, and it does not teach or suggest a mobile station interface port for communicating directly with the integrated propagation relay.

Judd generally shows a system for distribution of wireless services within a building. Various antenna 110a, 110b, 110c can receive different wireless signals that are converted to Ethernet signals and provided to an Ethernet hub 112. The Ethernet hub 112 then forwards those signals to a separate device -- a flat-panel repeater 113 -- that in turn forwards the signals to other repeaters 114, 115. The other repeaters 114, 115 then send the signals directly to wireless devices. The Ethernet signals from the repeaters 114, 115 might also be received by an Ethernet-to-PCS conversion unit 119 that converts the Ethernet signals to PCS signals for transmission to PCS devices.

In Judd, the flat panel repeater 113 is a separate element than the Ethernet hub 112 and the antennas 110a, 110b, 110c that the Examiner asserts together form Applicant's propagation relay. Additionally, the flat panel repeater 113 interfaces with the Ethernet hub 112 through an Ethernet connection, which is a relatively complicated connection used to network various separate components together rather than for internal communication of components within the same device. (Fig 23a; pg. 17, lines 20-25). Thus, the Ethernet hub 112 and the flat panel repeater 113 are clearly separate components rather than part of an integrated component.

Moreover, Judd makes clear that the "flat-panel repeater comprises a closely spaced stacked array of planar components that form a compact unit that can be easily mounted...." (pg. 8, lines 29-30). Judd then goes on to describe preferred dimensions, all less than 24 inches and some as small as 2 inches, for the flat panel repeater 113. The compact nature of the flat panel repeater 113 allows it to be easily mounted at various locates without taking up too much space and also allows the flat panel repeater 113 to be mounted flush on a wall or other surface. Not only does Judd not teach or suggest combining the flat panel repeater 113, the Ethernet Hub 112 and the antenna 110a-c into an integrated component, any such modification would result in a larger overall component that does not have the advantages that Judd teaches for the flat panel repeater 113.

In contrast, Applicant's amended independent claims 1, 11 and 21 are directed to an integrated propagation relay. That is, the functionality of Applicant's propagation relay is found in an integrated component rather than an interconnection of separate components. Judd does not teach or suggest eliminating the Ethernet connection between the Ethernet hub 112 and the flat panel repeater 113 in order to combine these two elements into one component. In fact, Judd teaches away from any such modification through its discussion of the advantages of a small, compact flat panel repeater 113 and its listing of the preferred small dimensions of the flat panel repeater 113. As Judd does not teach or suggest an integrated propagation relay, and it therefore does not anticipate or render obvious Applicant's claimed invention.

Additionally, in Judd the signals received at the antenna from the base station are converted to an Ethernet frequency and then transmitted by the flat panel repeater 113. The Ethernet frequency signals, however, are not transmitted directly from the flat panel repeater 113 to the Ethernet-to-PCS conversion unit 119. Rather, the Ethernet frequency signals are sent through one or more repeaters 114, 115 before finally being sent to the Ethernet-to-PCS conversion unit 119. Thus, there is no direct communication between the flat panel repeater 113 and the Ethernet-to-PCS conversion unit 119.

In contrast, Applicant's amended claim 1 includes an integrated propagation relay that can transmit and receive signals directly with a first mobile station interface port. For example, the integrated propagation relay can receive wireless signals from a base station in a first set of wireless frequencies. The propagation relay can convert the wireless signals in the first set of frequencies to wireless signals in a second set of wireless frequencies and then transmit those signals directly to the first mobile station interface port. Thus, the wireless signals in the second set of wireless frequencies would not go through a repeater or another intermediate element when traveling between the propagation relay and the first mobile station interface port.

Judd does not teach or suggest this direct communication. Specifically, Fig. 23a in Judd and its corresponding description make clear that signals traveling between the flat panel repeater 113 must go through one or more intermediate repeaters 114, 115 before reaching the Ethernet-to-PCS converter 119. Further, Judd simply does not describe any incentive for making such a modification.

Accordingly, Applicant's independent claim 1 is allowable, and dependent claims 2-6, 9-10 and 31-35 are also allowable. Amended independent claims 11 and 21 also include similar elements of an integrated propagation relay that can communicate directly with a mobile station interface port. Therefore, independent claims 11 and 21 and dependent claims 12-20 and 22-31 are also allowable.

II. Response to the Examiner's Official Notice Used in the Rejection of Claims 17-18

The Examiner rejected claim 17 and 18 based on Judd in view of the Examiner's official notice that "it was known in the art at the time the invention was made for the functions of a repeater and mobile station interface port to be combined." Applicant asserts that this is simply not the case, and that the Examiner is impermissibly using official notice to construct Applicant's invention where neither Judd nor any other reference teach or suggest these elements.

As the MPEP instructs, "official notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration is being well-known." MPEP 2144.03. Additionally, "it is never appropriate to rely solely on 'common knowledge' in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based." *Id.*

First, the Examiner cites only one reference. In this reference, the Examiner alleges that the Ethernet-to-PCS conversion module corresponds to Applicant's mobile station interface port. Then, the Examiner takes official notice that it was known in the art for such modules to communicate with

each other. First, Applicant submits that Ethernet-to-PCS modules are not so well known in the art as to properly be the subject of official notice, let alone the particular functionality of these modules that the Examiner alleges exists and is so well known throughout the art.

Second, the fact that the Examiner only cites one reference and that the reference does not teach or suggest this concept further evidences that the facts the Examiner takes official notice are not so well known that official notice would be proper. Further, this official notice forms most, if not all, of the basis for the rejection of the additional elements found in claim 17 and 18. This is contrary to the MPEP's instructions that official notice should not form the primary basis for a rejection.

Therefore, the Examiner impermissibly uses official notice as the basis for rejecting claims 17 and 18, and therefore, claims 17 and 18 are additionally allowable for these reasons.

III. Newly Added Claims 31-35

Applicant has added claims 31-35. These newly added claims are directed toward additional aspects of Applicant's invention that are neither taught nor suggested by Judd. Claim 31 is directed toward a repeater that receives wireless signals in the second set of frequencies, converts those signals to a third set of frequencies, and then transmits the wireless signals in the third set of frequencies to another repeater or to a mobile station interface port other than the first mobile station interface port. The repeaters 114, 115 described in Judd simply receive signals in one frequency (i.e., the Ethernet frequency) and then repeat the signals in that same frequency. They do not convert signals to a third frequency for transmission to another repeater or to an Ethernet-to-PCS conversion module, and they are not capable of receiving signals that are not in the Ethernet frequency. Similarly, Judd clearly shows that the Ethernet-to-PCS conversion modules are only capable of transceiving signals in the Ethernet frequency and the PCS frequency – not in a third frequency as is claimed by Applicant.

Claims 32 and 33 are directed toward filtering subsystems in the propagation relay and the first mobile station interface port respectively. The filtering subsystems can filter wireless signals in the first or second sets of wireless frequencies in order to improve a carrier to interference ratio. This is neither taught nor suggested by Judd. First, the antenna, Ethernet hub and flat panel repeater do not include this functionality. Further, the Ethernet-to-PCS circuitry illustrated in Figure 23B shows that the Ethernet-to-PCS conversion unit does not include this functionality. Therefore, Applicant's claims 32 and 33 are neither taught nor suggested by Judd.

Claims 34 and 35 are directed toward a frequency negotiation subsystem in the propagation relay and the first mobile station interface port respectively. The frequency negotiation subsystem can be used to determine which of the frequencies in the second set of frequencies provides approximately a best reception between the first mobile station interface port and the propagation relay. This element is also neither taught nor suggested by Judd.

IV. Submission of Formal Drawings

Applicant submits formal drawings with this response that correct the objections in the Notice of Draftperson's Patent Drawing Review and requests that the Examiner accept these formal drawings.

V. Conclusion

In conclusion, Applicant submits that the cited reference does not anticipate or render obvious Applicant's invention. Therefore, Applicant submits that the application is in condition for allowance and respectfully request early notice to this effect. If any questions or issues remain, the Examiner is invited to contact Applicants' attorney, Brian Harris, at his direct dial number (312) 913-3303.

Respectfully submitted,

**McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP**

Date: _____

4/23/04

By: _____



Brian R. Harris
Registration No. 45,900